

Notice of Allowability

Application No.

09/448,276

Examiner

Timothy L Rude

Applicant(s)

LEE ET AL.

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 01 October 2004.
2. ☒ The allowed claim(s) is/are 1-38.
3. ☒ The drawings filed on 24 November 1999 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 20040806
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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DETAILED ACTION

Claims

Claims 1, 12, 13, 15, 16, and 30 are amended.

Allowable Subject Matter

Claims 1-38 allowed.

The following is an examiner's statement of reasons for allowance:

As to claims 1, 12, 13, 15, 16, and 30, relevant prior art of record did not disclose, alone or in combination, a multi-domain liquid crystal display device as claimed comprising: a dielectric frame located exclusively in a region other than where said pixel electrode is formed, said dielectric frame distorting electric field applied to said liquid crystal layer.

The closest reference is Yamada who discloses [Figures 10A-10D (col. 19, line 40 through col. 27, line 35)] a multi-domain liquid crystal display device comprising: first and second substrates facing each other [32 and 34]; a liquid crystal layer [42] between said first and second substrates; a pixel electrode [31] in said pixel region; and a common electrode [33] on said second substrate; a dielectric frame, [36, OMR83, col. 26, lines 45-62] in a region other than a region where said pixel [pixel region in 10C] electrode is formed, said dielectric frame distorting electric field applied to said liquid crystal layer [inherent to dielectric material, OMR83], and an alignment layer, 38a and

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38b, on at least one substrate between said first and second substrates. Figures 10A-10D of Yamada do not explicitly disclose the gap between neighboring pixel electrodes, a plurality of gate bus lines arranged in a first direction on said first substrate and a plurality of data bus lines arranged in a second direction on said first substrate to define a pixel region, however these are obviously well known in the art as they are needed to control the individual pixel electrodes to achieve proper display performance.

However, no reference was found to teach modification of Yamada to result in the claimed dielectric frame located exclusively in a region other than where said pixel electrode is formed.

European Patent Application Publication EP 0884646 and Horie et al USPAT 5,673,092 [both provided by Applicant] teach the use of physical barriers with and without alignment surface properties, but they do not provide a motivation to modify dielectric structures to result in the claimed invention.

As to claims 2-11, 14, 17-29, and 31-38, they are directly or indirectly dependent upon claims with allowable subject matter above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy L Rude whose telephone number is (571) 272-2301. The examiner can normally be reached on Monday through Thursday.

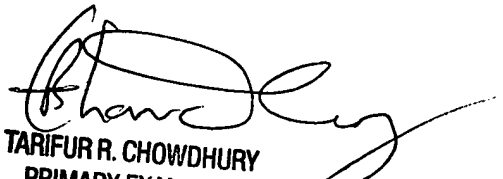
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



tlr

Timothy L Rude
Examiner
Art Unit 2883



TARIFUR R. CHOWDHURY
PRIMARY EXAMINER